

Hegeman-Hill Street Bridge  
Spanning the Batten Kill, 0.65 mile west of  
Greenwich westerly limit on the extension of  
Hill Street  
Easton and Greenwich  
Washington County  
New York

HAER No. NY-153

HAER  
NY,  
58-EAS,  
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

HAER  
NY  
58-EAS  
1-

Hegeman-Hill Street Bridge

HAER No. NY-153

Location: Spanning the Batten Kill between the towns of Easton and Greenwich, Washington County, New York. 0.65 miles west of the village of Greenwich westerly limit.

UTM: 18.620345.4771585  
Quad: Schuylerville

Date of Construction: 1901. Altered subsequent to 1932.

Present Owner: Washington County Highway Department  
Fort Edward, New York 12828

Present Use: Out of service due to lack of structural integrity. Was posted for four tones to closing. The structure will be demolished as part of the construction of a bridge replacement project. Certain ornamental elements will be preserved.

Significance: The Hegeman-Hill Street Bridge, while a common design of its time (pin connected-type Baltimore truss), was constructed by the Owego Bridge Company, founded by Ellery Colby, a bridge builder in New York State history.

Project Information: This documentation was undertaken in February 1986 in accordance with a Memorandum of Agreement by the New York State Department of Transportation as a mitigation measure prior to the removal of the bridge.

Keith W. Smith  
Director  
Environmental Analysis Bureau  
New York State Department of Transportation  
Albany, New York

Edited and  
Transmitted by: Jean P. Yearby, HAER, 1987

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of Erection: The bridge was erected in 1901.
2. Designer/Builder: The Owego Bridge Company, Owego, New York.
3. Original and Subsequent Owners:

The towns of Easton and Greenwich (1901-1932)  
Washington County Highway Department (1932-present)

The Hegeman-Hill Street Bridge was erected for the towns of Easton and Greenwich in 1901 by the Owego Bridge Company of Owego, New York, and named after Edgar R. Hegeman, a prominent local businessman and politician.

Substantial discussion by the citizens and the highway commissioners of Greenwich and Easton preceded building of the bridge. A series of meetings were held during late 1900 and into 1901 on the selection of the site. In contention were the Hill Street and the Academy Street routes. The Hill Street route was 0.51 mile shorter and was general favored by the residents of Easton, since it would shorten the drive to Greenwich by about one and one-half miles.<sup>1</sup> The bridge site was approved in February 1901 and the bridge was completed in October of the same year.<sup>2</sup>

Owego Bridge Company

The Owego Bridge Company was founded in 1892 by Ellery Colby. Prior to establishing the company, Ellery Colby organized the Groton Bridge Company in Groton, Tompkins County, New York. Colby sold his interest in the Groton Bridge Company in 1891 and moved to Owego, New York. He is credited with the construction of an iron bridge across the Potomac in Washington, D. C. (the extension of Pennsylvania Avenue) and the first iron pier ever constructed for the United States Government (at Fortress Monroe). In 1893, the Owego Bridge Company constructed a large bridge over the Susquehanna River at a total cost of \$100,000 and at one time erected the longest single span highway truss (360 feet) at Mount Morris in New York State.<sup>3</sup> The firm employed about 150 men.<sup>4</sup> The fabricating capacity of the Owego Bridge Company plant was 8,000 tons in 1898 and 9,600 tons in 1903.<sup>5</sup>

It is believed that Ellery Colby was associated with the Owego Bridge Company until the spring of 1901 when, according to his obituary, he sold his interest in the company to American Bridge Company. The Owego Bridge Company was controlled by the Conger interests of Groton, New York.<sup>6</sup> (Groton Bridge and Manufacturing Company).

However, Talbot's American Bridge Division - History and Organization does not indicate the acquisition of the Owego Bridge Company by American Bridge. It does note the acquisition of the Groton Bridge and Manufacturing Company. Frank Conger, an official of the Groton Bridge and Manufacturing Company, became an official of the American Bridge Company.<sup>7</sup> Talbot notes further that the Groton plant was closed in September 1901.<sup>8</sup>

Personal communications with William Chamberlain, New York State Department of Transportation, Pamela Thurber, The National Trust, and Margaret Hobby, the Dewitt Historical Society, yielded no information that ties the Owego Bridge Company to either the American Bridge Company or the Groton Bridge and Manufacturing Company.

Records of incorporation filed in the New York State Department of State (file numbers 146-113 and 342-17) indicate that the Owego Bridge Company was incorporated on June 12, 1893, and that in 1904 the organization under the same name changed voting members of the Board of Directors from five to seven. No members of the Colby family are listed in the 1904 modification. The corporation was dismissed by process (for not paying incorporation fees) on April 3, 1924.

As noted above, the April 2, 1925, obituary in the Owego Gazette is the only reference uncovered that links the Owego Bridge Company to the American Bridge Company. The corporate records indicate that sometime between 1893 and 1904, Ellerby Colby divested his interest in the Owego Bridge Company. If the Owego Gazette obituary is correct, he left the Owego Bridge Company in the spring of 1901 and may have been involved in the design and fabrication of the Hegeman-Hill Street Bridge, but probably not involved in its completion.

#### Edgar R. Hegeman

Edgar R. Hegeman, for whom the bridge was named, was born in Sand Lake, Rensselaer County, New York, on May 24, 1849, and died in Easton, Washington County, New York, on April 18, 1903. He was a farmer and a businessman, having interests in milling cement, the Consolidated Electric Company and in lumber. As a Republican active in the politics of Washington County, he was elected Supervisor of the Town of Easton in 1880 and served two terms.<sup>9</sup>

The following is from the History of Washington County (1959):

"The Hill Street truss bridge was built in 1901 at a cost of \$5,900 through the efforts of Edgar R. Hegeman, an influential resident of Easton living on the farm now A. H. Hand. Mr. Hegeman was a Republican boss of Easton and was called, not unkindly, the Tall Sycamore of Easton. This bridge carries relatively little traffic and is an example of poor, pinch-penny engineering."

The bridge remained the property of the towns of Greenwich and Easton until 1932 when ownership was transferred to the Washington County Highway Department. At this time, the county prepared a report on the structural condition of the bridge (see supplementary material). The bridge is in poor condition, and the county considered condemning it and replacing it with a steel truss or concrete bridge (see Photo NY-153-24). Instead, the bridge was repaired and structural members were upgraded.

## PART II. ENGINEERING INFORMATION

### A. General Statement:

The bridge connects the towns of Greenwich and Easton by providing a crossing over the Batten Kill. Hill Street is in the village of Greenwich was extended concurrent to or shortly after the construction of the existing bridge.

### B. Description of the Bridge:

The bridge is a single-span Baltimore truss or half Pratt through truss set on quarried stone abutments. This truss configuration is so named because the Baltimore and Ohio Railroad Company frequently used this design for railroad structures.

The Baltimore truss achieves economy and strength by subdividing the main panels with an auxiliary framework, usually half-weight verticals braced with diagonal struts. This modified configuration allows the proper relation between the slope of the diagonal web members and panel length for maximum economy of material for longer span simple trusses. The diagonal compression struts also add significant rigidity to the structure.

The Hegeman-Hill Street Bridge spans a total of 160'-0" across the Batten Kill. The bridge provides a clear roadway opening of 16'-0" and 14'9" high, with a total height of structure of 29'9". Nine floor beams, spaced at 16'-1", support the open steel grating, which replaced the original wood plank deck. The superstructure was fabricated with Carnegie iron, utilizing pin connections at all joints and riveted connections for all composite members. Bolts were used at the joints which were assembled in the field.

### C. Specifications:

The specifications of the bridge were as follows: 160 feet long on pin centers, 16-foot roadway in the clear, with the guaranteed capacity of floor system of 100 pounds to the square foot. The

abutments were to be 24 feet long on the bottom, 7 feet wide on the bottom, 3 feet wide on the top and 22 feet long on the top. The wing walls were to be 20 feet long and 5 feet wide on the bottom and 2-1/2 feet on the top. Wing walls and abutments to have one foot of concrete laid in the best iron clad cement. Walls were to be built on concrete 15 feet high above (the) concrete foundation. The walls were to be built of quarried stone and laid in Rosendale cement and sand in the proportion of one to three.<sup>10</sup>

D. Site:

The location of the structure (see attached location map) is over the Batten Kill approximately 0.65 miles west of the village of Greenwich westerly limit.

The Hegeman-Hill Street Bridge is in a rural setting surrounded by wooded slopes along the south bank and woods and cornfields on the north. A 19th century farmhouse is visible from the bridge to the north.<sup>11</sup> A modern dwelling constructed in 1985 overlooks the bridge on the south.

E. Alterations and Additions:

Sometime after acquisition of the structure by Washington County, the number of stringers supporting the deck was increased from seven to eleven, apparently to compensate for the serious deterioration found in the original stringers; the wood-planked deck was replaced by an open steel grating supported on transverse sills; three of the four truss support points have been reinforced with welded steel plates; the original bridge rail has been replaced with welded channel sections; and the south abutment was stabilized with a poured concrete facing extending from below water level to bridge seat elevation.

III. BIBLIOGRAPHY

- |                               |  |
|-------------------------------|--|
| Darnell, Victor C.<br>1984    | <u>Directory of American Bridge Building Companies 1840-1900.</u> Society for Industrial Archeology.                                 |
| Kingman, Leroy W.<br>ca. 1895 | <u>Our County and Its People - A Memorial History of Tioga County, New York.</u> W. A. Ferguson, Elmira, New York.                   |
| Kingman, L. W.<br>1904        | <u>Owego Sketches by Owego Authors.</u> Ladies Aides of the Baptist Church.  |
| Talbot, R. A.<br>1975         | <u>American Bridge Division - History and Organization.</u> (Probably published by American Bridge Division of United States Steel.) |

Hegeman-Hill Street Bridge  
HAER No. NY-153  
(Page 6)

- 1984                    Cultural Resources Survey Report, P.I.M. 1751.00  
                         Hegeman-Hill Street Bridge Replacement Greenwich,  
                         Washington County and prepared by the Division  
                         of Historical and Anthropological Services  
                         Office of the State Historian, Office of the  
                         State Archaeologist, New York State Museum.
- 1959                    History of Washington County, Washington County  
                         Historical Society.
- 1900-1901              The Greenwich Journal - various issues.
- April 2, 1925           Owego Gazette.

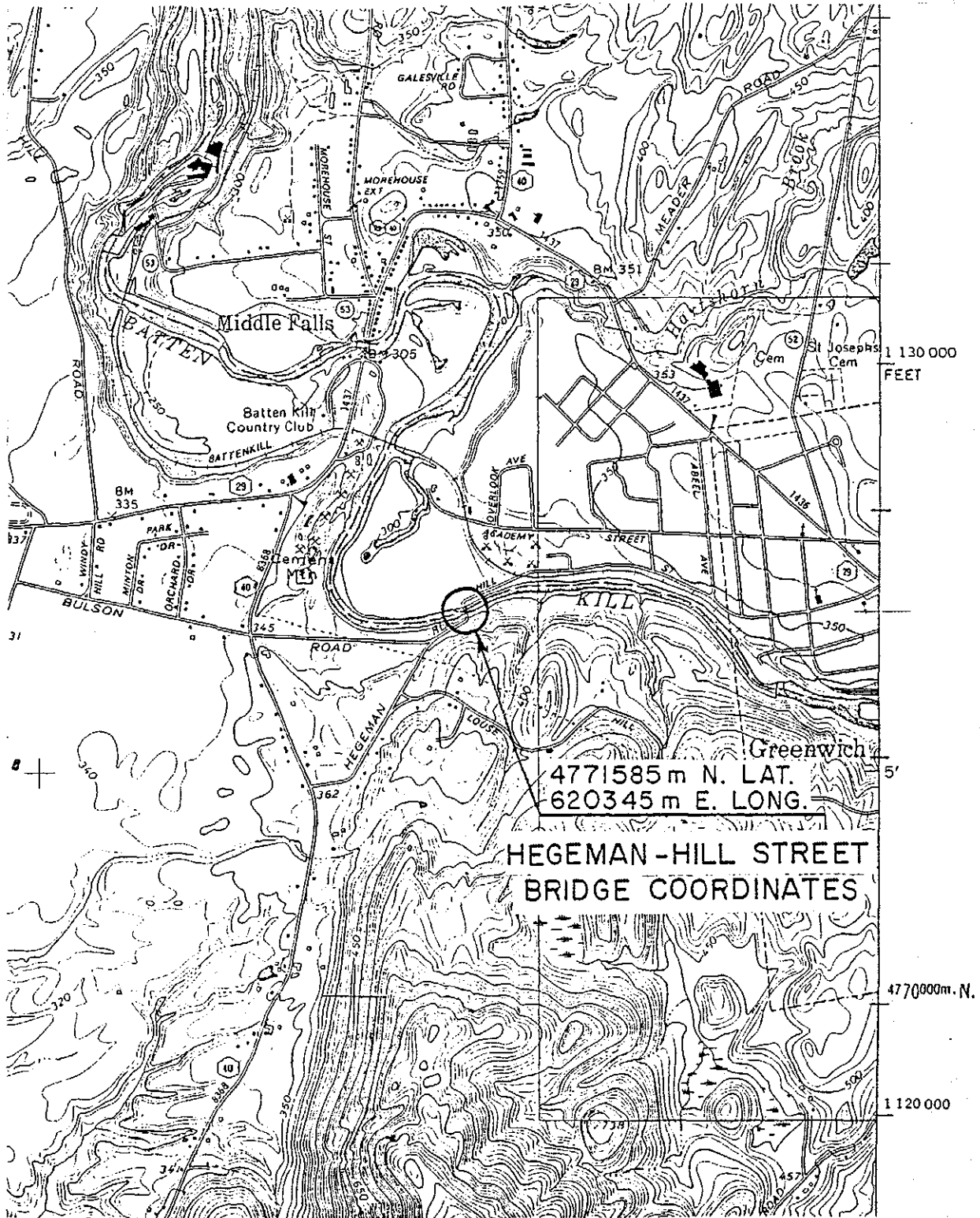
Footnotes

- 1 The Greenwich Journal, October 1900 to August 1901.
- 2 Cultural Resources Survey Report, p. 21.
- 3 Our County and Its People - A Memorial History of Tioga County, New York, pp. 321-322; 572-573.
- 4 Owego Sketches by Owego Authors, p. 73.
- 5 Directory of American Bridge Building Companies 1840-1900, p. 79.
- 6 Owego Gazette, April 2, 1925.
- 7 American Bridge Division - History and Organization, p. 15.
- 8 Ibid., p. 20.
- 9 The Greenwich Journal, April 22, 1903, p. 1.
- 10 The Greenwich Journal, February 27, 1901, p. 1.
- 11 Cultural Resources Survey Report, p. 22.



# HEGEMAN - HILL STREET BRIDGE

LOCATION BY NEW YORK TRANSVERSE MERCATOR COORDINATES



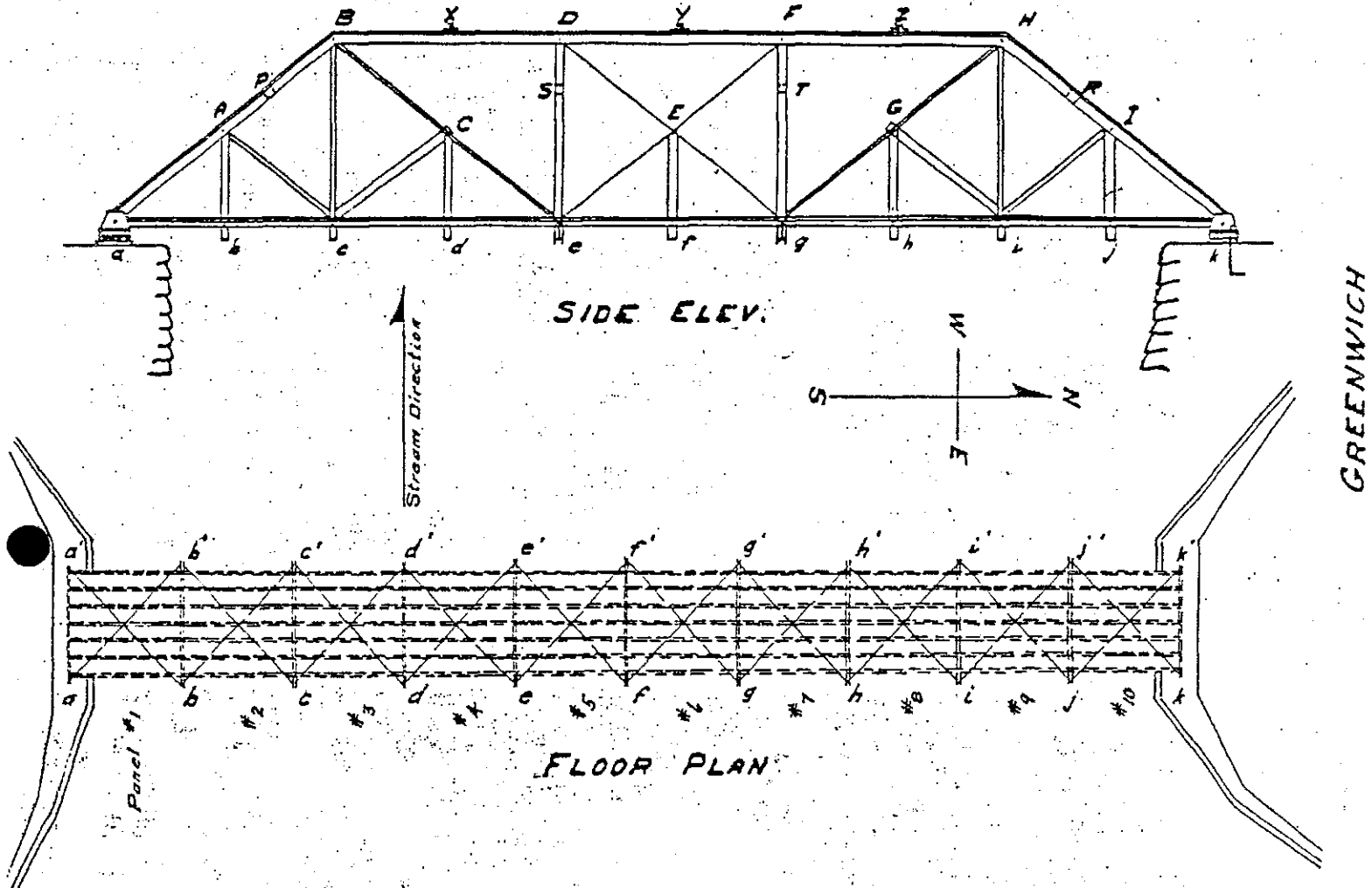
1932 REPORT ON THE STRUCTURAL CONDITION  
OF THE HILL STREET BRIDGE

Source: Washington County Department of Highways

This report also describes the members and types of connection comprising the structure and a recommendation as to the disposition of the structure.

HILL STREET BRIDGE

ACROSS the BATTENKILL RIVER-BETWEEN  
THE TOWNS of GREENWICH and EASTON.



In my opinion this bridge is a liability and should be unconditionally condemned.

The cost of: Replacing stringers in Panel #1 and two stringers in Panel #10, half the bolts connecting the stringers to the panel beams, new rollers, pointing up of abutments and fixing bearing surface on the Easton end, brushing and painting of metal, with angles to tighten up upper structure, would be prohibitive to the value it would be worth. As, even if these things were done, it would have to be posted for five tons and should be for less than that due to elements and strength gone from the metal unable to be figured.

R.B. Weaver

## DIMENSIONS:

10 Panels @ 16'-0" give total of 160'-0" End pia to end pia.  
 17'-4" & Truss to & Truss  
 25'-11 $\frac{1}{2}$ " Pia at top of col. to pia at lower end of col.  
 41'-3" & Pia to & Pia on end Posts.  
 15'-0" Clear road width.  
 14'-11" Road clearance (O.K.)  
 156'-0" Clear water span, Edge of abutment to edge of abutment.  
 5'-10" Avg. depth of present water.  
 11'-9" Elev. of water to top of abutment.

## ABUTMENTS:

Approx. 17'-7" above river bed.  
 0'-8" Batter in total height.  
 4'-0" Wide at the top. In length it tapers down to act as a retaining wall.  
 On the side at k for 3'6" & 18'0" & 16'0"  
     k'      2'6" & 24'0"  
     a      4'0" & 18'0" & 15'0"  
     a'      3'0" & 13'0"  
 Good work built of large stone but badly in need of Pointing  
 Up. Surface bearing of North abutment is in fair condition,  
 (Stable end of bridge).  
 Surface bearing of South abutment is in very poor condition,  
 (Free end of bridge).

## ROLLERS:

In very poor condition if of any use. Expansion has taken place  
 on the North (or fixed) end of bridge by pushing and bending  
 the anchor bolts severely North. Dia. of rollers 2 $\frac{1}{2}$ ".

## PANEL BEAMS:

17'-4" lg.  
 15" Depth  
 5 $\frac{1}{2}$ " Flange  
 13/32" Web  
 13/32" Toe flange  
 Nine of these panel beams 16'-0" centers. Condition good.  
 Two angles on each end of the beams tie them to their hanging  
 straps at b,c,d,f,h,i,j, and b'c'd'f'h'i'j'.  
 While the beam at ee' and the one at gg' are held by 1-1/8"  
 rods bolted thru 3/8" plates underneath the beams.

## STRINGERS:

7" Deep  
 3-5/8" Flange  
 1/4" Web  
 1/4" Toe of Flange  
 Seven of these I beams spaced 30" centers.  
 The stringers are carried by the panel beams except aa' and  
 kk', they are carried by a 4"x4"x3/8" angle on edge.  
 On the angle at the Easton (South) end of the bridge:

S1 is 30% Shot  
 S2      40%      "  
 S3      40%      "  
 S4      40%      "  
 S5      90%      "  
 S6      80%      "  
 S7      90%      "

On the angle at the Greenwich (North) end of the bridge:

S1 is 30% Shot  
 S2      "      Fair  
 S3      "      Fair  
 S4      "      Fair  
 S5      "      Fair  
 S6      "      Fair  
 S7      "      Fair

STRINGERS:

(Cont.) The stringers in the other panels are fair.

The angles are fair.

About half of the bolts tying the stringers to the panel beams are either gone or need replacing.

BOTTOM TATERAL BRACING:

2x2x5/16" Tie angles in good condition.

BED PLATES:

2x2"x20 1/4"x5/8" in fair condition.

FACE PLATES:

Fair to good condition.

WOOD PLANKING:

3" Thick in fair to good condition.

SHOES:

Fixed shoes on North end in fair to good condition.

One anchor bolt in each. Both bent severely North.

Roller shoes (South) end in fair to good condition. Except for rollers which are no good.

TRUSSES:

The beams in aAPBXDYFZHRIk and a'A'P'B'X'D'Y'F'Z'H'R'I'k' are made up of two 10" channels (2 1/2" flange-1/2" toe) back to back and 10 1/2" apart. Held together by a 16"x5/16" plate on the upper side (6" rivet spacing). On the lower side by 2 1/4"x1 1/2" lattice straps (16" Staggered rivet spacing). Fair to good.

iI, Gi, Ac, Cc and their primes are made up of Two 5" channels (1 1/4" flange-1/4" toe) back to back and 6" apart. Held together by 1 1/4"x1 1/4" lattice straps on both sides (12" rivet spacing opp.)

eD, gF and their primes are made up of Two 6" channels (1-7/8" flange-1/2" toe) back to back 10-3/8" apart and held together by 1 1/2"x1 1/2" lattice straps on both sides (13" rivet spacing opp.)

Ab, Cd, Ef, Gh, Ij, and their primes are 7"x5/16" single straps.

Bc, Hi, and their primes are 2"x3/4" straps -double. Fair to good.

BCc, HGg, and their primes are 2"x7/8" straps -double.

DEg, FEE, and their primes are 7/8" rods- double. Fair to good.

Double straps from pia to pia. From ato b, b to e, c to d, d to e, g to h, h to i, i to j, j to k, and their primes are 1"x3". Good.

Double straps from pia to pia. From e to f, f to g, and their primes are 1"x4". Good condition.

Built up sections as chords PP', SS', TT', RR', are in good condition  
XX', YY', ZZ', are made of two 3" angles back to back and are in fair to good condition.

All members in upper structure in fair to good condition. Rivets in fair to good condition. One loose at H and one at H'-(Negligible).

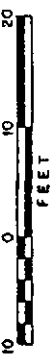
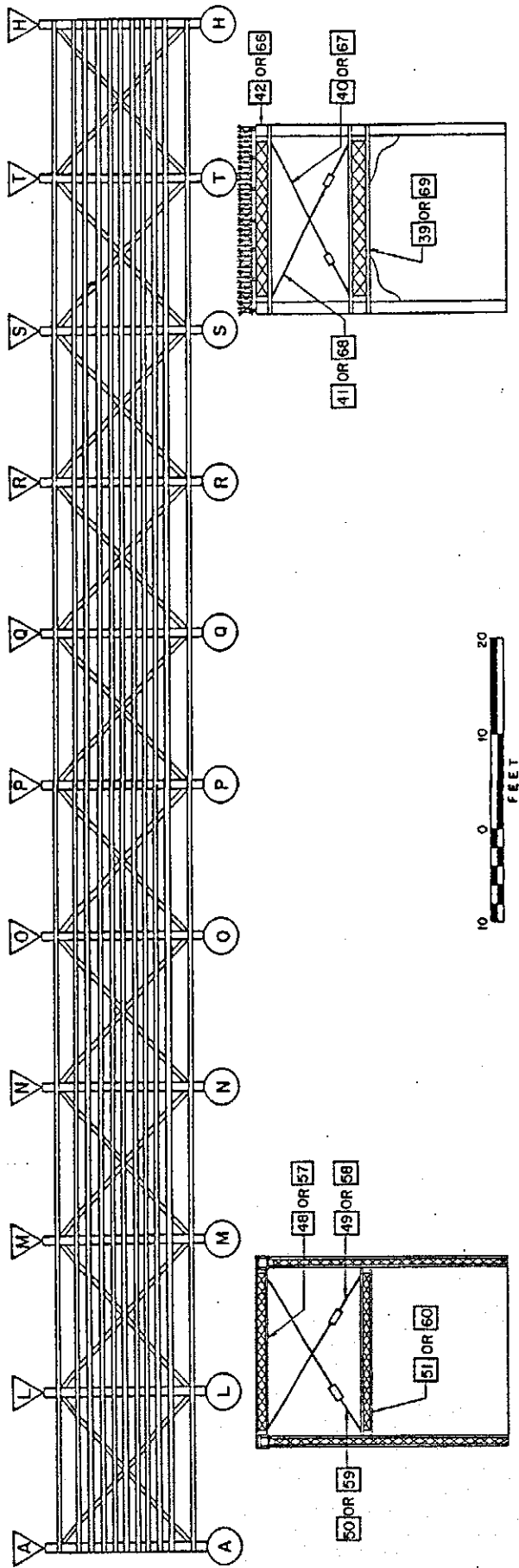
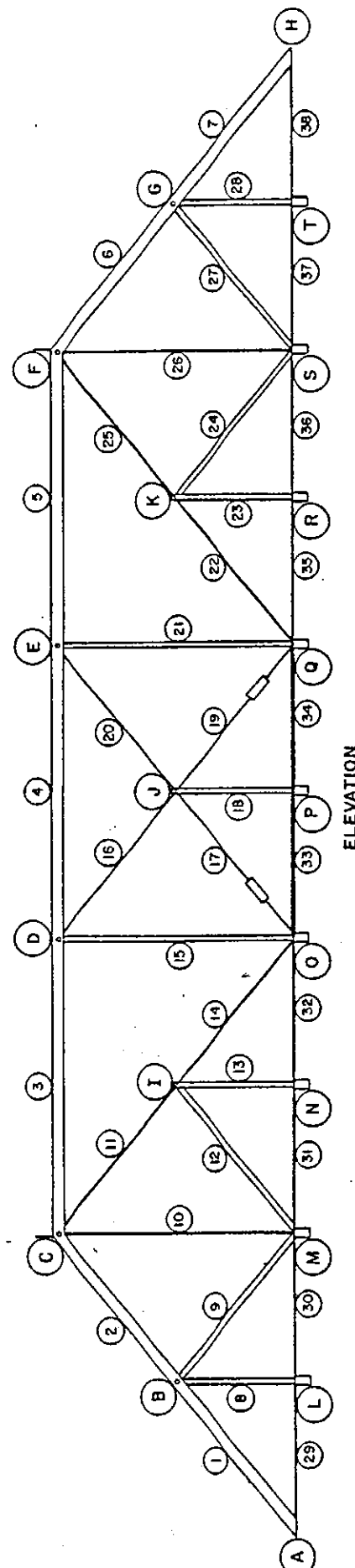
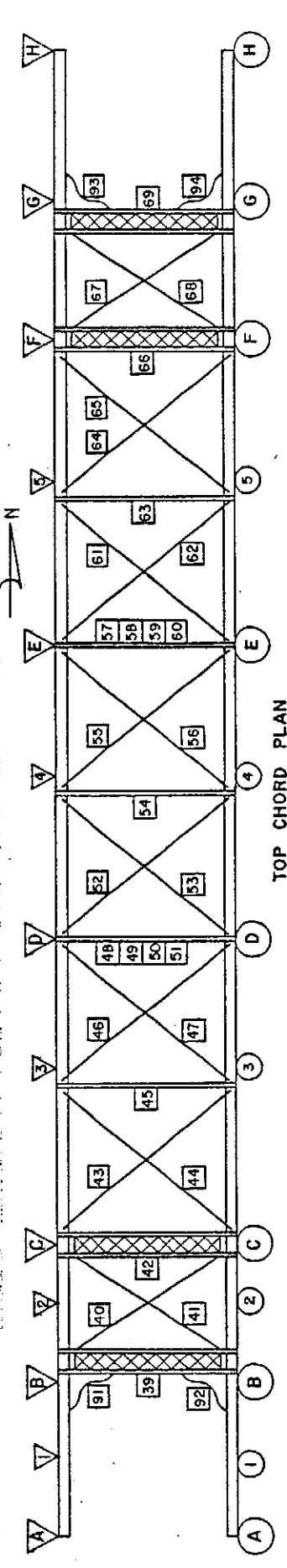
Two bolts loose at B in cover plate. One bolt loose at B' in cover plate. Two bolts loose at H' in cover plate. Three bolts loose at H in cover plate. Almost half of the bolts connecting the stringers to the panel beams are either loose, gone or need replacing. Pias are in fair to good condition except at a and a', which are eroded to quite an extent. Upper tie rods allow considerable chucking and vibration. Could be replaced by rigid members. Built by THE OWEGO BRIDGE Co., OWEGO, N.Y.

Bridge bellies at center 1" downstream.

Using a six ton truck with a load of 2 tons on each rear wheel and 1 ton on each front wheel: Place a rear wheel on a stringer half way between the panel beams. A 7"I beam, 16 ft. long has a distributed safe load of 3.45 tons, a safe load at the center of 1.72 tons. The six ton truck is too heavy.

Using a five ton truck gives a rear wheel load of 1.667 tons, which is just under the safe wheel load at the center of 1.72 tons.





SURVEY NO.  
H A E R  
NY-153

NAME AND LOCATION OF STRUCTURE  
THE HEGEMAN - HILL STREET BRIDGE - BALTIMORE TRUSS  
TOWNS OF EASTON AND GREENWICH, WASHINGTON COUNTY, NEW YORK  
SPANNING BATTEN KILL - STATE OF NEW YORK

FREDERICK M. HOWARD N.Y. P.E. NO. 050518

HAER NO. NY-153  
PAGE 13





MEMBER TYPE	NAME	CROSS SECTION	DESCRIPTION	PIN-PIN LENGTH	LOCATION MEMBER NOS.
XI	STRINGER		7" AMERICAN STANDARD BEAM 15 LB/FT.	162'0"	70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80
XII	BOTTOM CROSS BRACING		(2) 3"x2"x1/4" ANGLES FINNED AT CENTER CROSSING	22'9"	81, 82, 83, 84, 85, 86, 87, 88, 89, 90
XIII	END PORTAL TOP LATERAL		(2) 2"x2"x1/4" ANGLES BACK TO BACK TOP AND BOTTOM WITH 2"x1/4" LACING BARS IN CENTER CONNECTING ANGLES		42, 66
XIV	END PORTAL BOTTOM LATERAL		(2) 3"x2"x1/4" ANGLES BACK TO BACK TOP & BOTTOM WITH 1/4"x1/4" LACING BARS IN CENTER		99, 69
XV	END PORTAL CROSS BRACING		(2) 7/8" DIA. RODS DIAGONALLY BETWEEN LATERAL BRACING		40, 41, 67, 68
XVI	TOP LATERAL ANGLES		(2) 3"x2"x1/4" ANGLES BACK TO BACK		45, 54, 63
XVII	TOP CROSS BRACING		7/8" DIA. RODS THROUGH SLEEVE RIVETED TO COVER PLATE OF TOP CHORD		40, 41, 43, 44, 46, 47, 52, 53, 55, 56, 61, 62, 64, 65, 67, 68
XVIII	INTERIOR PORTAL LATERAL		(2) 3"x2"x1/4" ANGLES BACK TO BACK TOP AND BOTTOM WITH 1/4"x1/4" LACING BARS IN CENTER		48, 51, 57, 60
XIX	INTERIOR PORTAL CROSS BRACING		7/8" DIA. RODS DIAGONAL BETWEEN LATERAL		48, 50, 58, 59
XX	END PORTAL KNEE BRACING		1/4" PLATES STAMPED WITH OSWEGO, N.Y. AND O.B. CO.		91, 92, 93, 94

MEMBER TYPE	NAME	CROSS SECTION	DESCRIPTION	PIN-PIN LENGTH	LOCATION MEMBER NOS.
I	END POST AND TOP CHORD		(2) 10"x10" CHANNELS BACK TO BACK SPACED AT 10"x1/2" W/ 1/2"x3/8" COVER PLATE ON TOP & 2 1/2"x1/4" LACING BARS ON THE BOTTOM	41' 3/4" END POST 96'0" TOP CHORD	1, 2, 3, 4, 5, 6, 7
II	HALF HEIGHT VERTICAL		FLAT PLATE 7" WIDE x 1/16" THICK	19'0" 9/16"	8, 13, 18, 23, 28
III	DIAGONAL COMPRESSION STRUT		(2) 8"x7.0 CHANNELS BACK TO BACK SPACED AT 6" WITH 1 1/4"x1/4" LACING BARS TOP AND BOTTOM	20' 7 13/16"	9, 12, 24, 27
IV	FULL HEIGHT VERTICAL TENSION STRAP		(2) FLAT BARS 2" WIDE x 1/4" THICK WITH EYE BARS FORMED AT EACH END FOR PIN CONNECTIONS	20' 1 7/16"	10, 20
V	BOTTOM CHORD		(2) FLAT BARS 3" WIDE x 1" THICK WITH EYE BARS FORMED AT EACH END FOR PIN CONNECTIONS	16'0"	29, 30, 31, 32, 35, 36, 37, 38
VI	DIAGONAL TENSION STRAP		(2) FLAT BARS 2" WIDE x 7/8" THICK WITH EYE BARS FORMED AT EACH END FOR PIN CONNECTIONS	20' 7 13/16"	11, 14, 22, 25
VII	FULL HEIGHT COMPRESSION VERTICAL		(2) 6"x10.0 CHANNELS BACK TO BACK SPACED AT 10 1/2" WITH 1 1/2"x1/4" LACING BARS BOTH ENDS	20' 1 7/16"	13, 21
VIII	DIAGONAL TENSION RODS		(2) 7/8" DIA. RODS WITH EYELETS AT EACH END FOR PIN CONNECTION	20' 7 13/16"	16, 17, 19, 20
IX	HEAVY BOTTOM CHORD (CENTER SPAIN)		(2) FLAT BARS 4" WIDE x 1" THICK WITH EYE BARS FORMED AT EACH END FOR PIN CONNECTIONS	10'0"	33, 34
X	FLOOR BEAM		15" AMERICAN STANDARD BEAM #18 39 LB/FT	17'6"	A, L, M, N, O, P, Q, R, S, T, U

NAME AND LOCATION OF STRUCTURE  
THE HEGEMAN - HILL STREET BRIDGE - BALTIMORE TRUSS  
TOWNS OF EASTON AND GREENWICH, WASHINGTON COUNTY, NEW YORK  
SPANNING BATTEN KILL - STATE OF NEW YORK

SURVEY NO.  
H A E R  
NY - 153

HISTORIC AMERICAN  
ENGINEERING RECORD

FILED IN  
UNIVERSITY OF MICHIGAN  
NY 153 NO 62618